799 Health Care Delivery: Coronary Heart Disease

Wednesday, March 19, 1997, 2:00 p.m.–3:30 p.m.
Anaheim Convention Center, Room A9

2:00

799-1 Patients Treated by Cardiologists Have a Lower In-Hospital Mortality for Acute Myocardial Infarction

P.N. Casale, J.L. Jones, F.E. Wolf, Y. Pei, L.M. Eby. *The Lancaster Heart Foundation, Lancaster, PA, USA*

To determine the effect of specialty care on in-hospital mortality in patients (pts) who present with acute myocardial infarction (AMI), we analyzed the data from the Pennsylvania Health Care Cost Containment Council (PHC4) report on AMI. The PHC4 reported on 39,256 hospital admissions for the treatment of AMI in the state of Pennsylvania in 1993. A risk-adjusted in-hospital mortality model was developed for the 30,715 pts admitted directly to a hospital (as opposed to pts transferred from another hospital) by testing 20 clinical variables including the Atlas admission severity score, which itself is a collection of 23 clinical variables. 12 of the 20 clinical variables were significant independent predictors of in-hospital mortality and were used in the model to measure risk-adjusted mortality. The ROC curve for the model was 88.1%. These variables included Atlas score, age, cardiac dysrhythmia, cardiogenic shock, cardiomyopathy, conduction disorder, diabetes, dialysis, gender, infarct site, prior CABG and renal failure.

Physician and hospital related characteristics, including physician specialty type [cardiologist vs primary care providers (internist or family practice)], number of AMI pts treated by a physician, hospital type (CABG vs non-CABG), number of hospitals in which the physician practiced, hospital teaching status and number of physicians in the practice group were initially analyzed to determine if these variables added to the predictive power of the model. The results of a multivariate logistic regression analysis identified treatment by a cardiologist (odds ratio = 0.88 [CI = 0.79–0.99], p = 0.03), and physicians treating more than 12 AMI pts (odds ratio = 0.86 [CI = 0.78–0.95], p = 0.005) as independent predictors of lower in-hospital mortality.

Conclusions: 1) Treatment by a cardiologist is associated with approximately a 12% reduction in hospital mortality in AMI pts. 2) Pts of physicians treating more than 12 AMI pts have approximately a 14% reduction in mortality. 3) This may have important implications for the optimal treatment of AMI in the current transformation of the health care delivery system.

2:15

799-2 Implementation of ACC/AHA Guidelines for Preoperative Cardiac Risk Assessment Before Aortic Surgery: Implications for Resource Utilization

J. Froehlich, D. Karavite, N. Erdum, M. Freedman, C. Wise, G. Zelenock, T. Wakefield, J. Stanley, K. Eagle. *University of Michigan Medical Center, Ann Arbor, Michigan, USA*

To evaluate guideline implementation for cardiac risk assessment, we prospectively compared 64 consecutive patients undergoing abdominal aortic surgery between 7/95–7/96, with 96 historical controls (10/93–7/94). ACC/AHA joint task force report guidelines were used. A preop screening clinic was established and algorithm-guided clinic notes were used. A series of grand round lectures were conducted and pocket-sized printed algorithms disseminated, explaining the guidelines. Outcomes measured were death and MI. Resource use examined cardiology consultation (CCONS), use of stress testing (STRESS), cardiac catheterization (CATH), and preop PTCA/CABG. *Results:* Age, gender, prior MI, and diabetes were similar in the two groups. Hx of chest pain (CP) (20.8% vs. 7.8%) and prior CHF (14.6% vs. 3.1%) were more common in controls (both p < 0.05). STRESS, CCONS, CATH, PTCA/CABG, were reduced after guideline introduction. Even after excluding patients with CP and/or CHF, these results remained highly significant.

	Guidelines	Controls	
STRESS	27/64 (42.2%)	84/96 (87.5%)	P < 0.0001
CCONS	24/64 (37.5%)	69/96 (72.6%)	P < 0.0001
CATH	3/64 (4.7%)	24/96 (25%)	P = 0.0008
PTCA/CABG	0/64 (0%)	26/96 (27.1%)	P < 0.0001
DEATH	3/64 (4.7%)	3/96 (3.1%)	P = 0.61
MI	3/64 (4.7%)	6/96 (6.3%)	P = 0.67

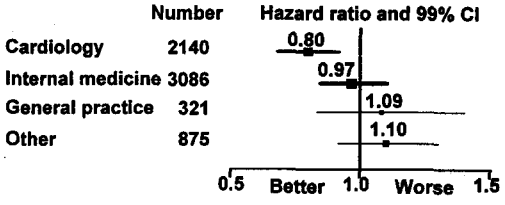
Conclusions: Using simple guidelines and educational tools, we demonstrated a reduction in utilization of cardiac consults, tests, and interventions in patients having aortic surgery. These findings argue for significant opportunity to reduce resource utilization surrounding preoperative cardiac assessment. Larger studies are needed to assess any potential favorable or unfavorable effects on outcomes.

2:30

799-3 Outcome of Acute Myocardial Infarction by Physician Specialty

J.G. Jollis, E.D. Peterson, E.R. DeLong, L.H. Muhlbaier, D.B. Mark. *Duke University, Durham, NC, USA*

In order to limit costs, health care organizations in the United States are shifting medical care from specialists to primary care physicians. We examined mortality by physician specialty for 8,241 Medicare patients hospitalized for acute myocardial infarction in 1992 in four states (mean age 76.4; 50% women; 94% white, 5% black; mortality in-hospital 14.7%, 1 year 32.8%). The chart below shows 1 year mortality hazard by admitting physician specialty relative to family medicine, after adjusting for patient factors including age, blood pressure, pulse, infarction location, Killip class, height, weight, previous infarction, smoking status, and comorbid illness:



Patients treated by cardiologists were 19 percent less likely to die within 1 year compared to those treated by primary care physicians (P < 0.001). Cardiology patients also were more likely to undergo coronary revascularization (P < 0.001), and to be treated with survival prolonging therapies (P < 0.001). This study suggests that health care strategies that shift the care of elderly myocardial infarction patients from cardiologists to primary care physicians will lead to lower costs, but worse outcomes for elderly Americans.

2:45

799-4 A comparison of Health Care Financing Administration (HCFA) guided and Local Chart Review in the Assessment of Quality Indicators for the Treatment of Acute Myocardial Infarction: The Auditors get Audited

R.C. Marsh, J.H. Beckmann, C.A. Morgan, W.C. Humphries, Jr., G.A. Rath, P.G. Hurst. *North Colorado Medical Center, (NCMC) Greeley, CO, USA*

HCFA has mandated external chart review in the ongoing Cooperative Cardiovascular Project for the above stated purpose. We performed our own chart review of the same 101 charts obtained by HCFA to compare the tabulation and implications of the two data sets. Two cardiologists reviewed the charts and recorded data on use and timing of aspirin, reperfusion methods (REP), ACE inhibitors, beta blockers, smoking advice (ADV) and the avoidance of calcium channel blockers (NO CAL). Data are presented for the patients receiving therapy and considered eligible (Pts T/E).

Indicator	Pts T/E HCFA	%	Pts T/E NCMC	%
ASA day 1	31/56	55	87/89	98
ASA hosp	56/59	95	87/91	95
ASA disch	33/44	75	80/86	93
REP	6/10	60	31/31	100
Beta B	10/18	56	37/46	80
ACE I	7/15	47	24/27	89
ADV	8/16	50	5/26	19
NO CAL	8/9	89	11/13	85

We conclude the present external review process is inadequate to guide us in an attempt to improve patient care. Reasons for most of the discrepancies are present and will be discussed.

3:00

799-5 Regional Variation in Post-MI Testing: Results in 190,237 Pts

E.D. Peterson, J.G. Jollis, L.J. Shaw, J.A. Stafford, E.R. DeLong, L.H. Muhlbaier, D.B. Mark. *Duke University Medical Center, Durham, NC, USA*

Prior studies have concluded that areas using more non-invasive stress tests also use more cardiac catheterization (CATH) and revascularization (REVASC), implying 'technology begets technology'. Using National Medicare Data (linking Part A and B claims files), we examined this relationship in 190,237 patients aged ≥65 admitted with an MI between 1/92 and 11/92. We compared the use of any non-invasive stress test (NIST), stress testing